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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,875	03/04/2004	Keiichi Senda	2004_0331A	5186

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EXAMINER

TRAN, DALENA

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



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APPLICATION NO/ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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10/791, 875

EXAMINER
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Commissioner for Patents

## Office Action Summary

**Application No.**

10/791,875

**Applicant(s)**

SENDA ET AL.

**Examiner**

Dalena Tran

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-10, 13, 17-21 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 11, 12, 14-16 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/1/04, 3/3/05</u>  | 6) <input type="checkbox"/> Other: _____                                    |

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**DETAILED ACTION**

**Notice to Applicant(s)**

1. This application has been examined. Claims 1-25 are pending.
2. The prior art submitted on 6/1/04, and 3/3/05 have been considered.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 18, is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18, in the last paragraph, line 2, the phrase "drawing day" need to be explained what is that means in the claim, is that should be read as "drawing data". Correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 6, 10, 13, 21, and 23-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimura et al. (6,282,490) in view of Aritsuka et al. (5,715,412).

As per claims 1, and 25, Nimura et al. disclose a map displaying apparatus that displays a map, comprising: a map data storing unit operable to store map data (see columns 1-2, lines 53-5; column 4, lines 42-59; and columns 5-6, lines 21-23). Nimura et al. do not disclose generate

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map drawing data based on the sound data obtained from the sound data obtaining unit.

However, Aritsuka et al. disclose a sound data obtaining unit operable to obtain sound data (see columns 3-4, lines 40-10); and an image generating unit operable to generate map drawing data based on the map data stored in the map data storing unit and the sound data obtained from the sound data obtaining unit (see column 4, lines 11-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Nimura et al. by combining image generating unit operable to generate map drawing data based on the sound data obtained from the sound data obtaining unit to offer audio representation of map for a driver who only want to hear a driving image, and do not have to look up in a screen, so the driver not being distracted when driving, and also increase safety for the driver.

Also, as per claim 2, Aritsuka et al. disclose wherein the map data is data relating to at least one three-dimensional object (see column 10, lines 1-51), and the image generating unit changes one of a shape and a position of the at least one three-dimensional object in accordance with changes in the sound data (see columns 1-2, lines 50-31; and column 6, line 5-57).

Aritsuka et al. also disclose the shape is changed by changing a height of the at least one three-dimensional object (see column 6, lines 5-57).

As per claim 6, Nimura et al. do not disclose changes color data applied to the at least one three-dimensional object based on changes in the sound data. However, Aritsuka et al. disclose wherein the map data is data relating to three-dimensional objects, and the image generating unit changes color data applied to the at least one three-dimensional object based on changes in the sound data (see columns 1-2, lines 50-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Nimura et al. by combining

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changes color data applied to the at least one three-dimensional object based on changes in the sound data to emphasize an area need to be pay attention by the driver when driving, for example, change to an area of heavier traffic or close to a destination.

As per claim 10, Aritsuka et al. disclose the map data is data relating to at least one three-dimensional object (see column 10, lines 1-51), and the image generating unit changes a display region for the at least one three-dimensional object on a screen based on changes in the sound data (see column 8, lines 28-57).

As per claim 13, Nimura et al. do not disclose a process that shakes top vertices of the at least one three-dimensional object based on changes in the sound data. However, Aritsuka et al. disclose the map data is data relating to at least one three-dimensional object (see column 10, lines 1-51), and the image generating unit carries out a process that shakes top vertices of the at least one three-dimensional object based on changes in the sound data (see columns 4-6, lines 61-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Nimura et al. by combining a process that shakes top vertices of the at least one three-dimensional object based on changes in the sound data to help the driver recognize different side of map tracing according to different map image.

As per claim 21, Nimura et al. do not disclose the image generating unit includes a region division unit operable to divide a region of a screen based on frequency bands of the sound data. However, Aritsuka et al. disclose the image generating unit includes a region division unit operable to divide a region of a screen based on frequency bands of the sound data obtained from the sound data obtaining unit, and generates the map drawing data separately for each region produced by division by the region division unit (see columns 4-6, lines 61-4). It

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would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Nimura et al. by combining to discriminate between different region of the map image.

Also, as per claim 23, Aritsuka et al. disclose wherein the sound data includes at least one of data relating to magnitudes of sounds and data relating to magnitudes of sounds in respective frequency bands (see column 4, lines 11-60).

Claim 24, is a method claim corresponding to apparatus claim 1 above. Therefore, it is rejected for the same rationales set forth as above.

6. Claims 7-9, are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimura et al. (6,282,490), and Aritsuka et al. (5,715,412) as applied to claim 6 above, and further in view of Li et al. (6,757,446), and Okude et al. (6,341,254).

As per claim 7, Aritsuka et al. disclose the image generating unit includes an object generating unit operable to fetch map data stored in the map data storing unit, to specify local coordinates of vertices of the at least one three-dimensional object, and carry out a generation process for the at least one three-dimensional object (see columns 1-2, lines 50-32); an object coloring changing unit operable to obtain color data of the at least one three-dimensional object stored in the map data storing unit and change the color data based on changes in the sound data obtained from the sound data obtaining unit (see columns 6-7, lines 58-17). Nimura et al., and Aritsuka et al. do not disclose a local coordinate transforming unit. However, Li et al. disclose a local coordinate transforming unit operable to set a local coordinate transformation matrix for transforming the local coordinates to global coordinates and transform the local coordinates to global coordinates using the local coordinate transformation matrix (see column 4, lines 9-36;

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columns 15-17, lines 39-6). Nimura et al., and Aritsuka et al. also do not disclose a model view transforming unit. However, Okude et al. disclose a model view transforming unit operable to specify viewpoint coordinates for a viewpoint in the global coordinates, and generate the map drawing data by transforming the global coordinates to a coordinate system centered on the viewpoint coordinates using a model view transformation matrix (see columns 1-2, lines 66-61; and columns 6-8, lines 61-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Nimura et al., and Aritsuka et al. by combining a local coordinate transforming unit, and a model view transforming unit for transforming images to accurately simulate how a scene would be viewed by an observer.

As per claims 8-9, Aritsuka et al. disclose the object coloring changing unit obtains (a) color data of top vertices of the at least one three-dimensional object, and (b) color data of base vertices of the at least one three-dimensional object from the map data storing unit, and changes the color data of at least one of (a) and (b) based on the sound data obtained from the sound data obtaining unit, and wherein the object coloring changing unit carries out a gradation process for a color of the top vertices and a color of the base vertices of the at least one three-dimensional object after changing to change intermediate color data of the at least one three-dimensional object (see columns 7-8, lines 18-27).

7. Claim 17, is rejected under 35 U.S.C. 103(a) as being unpatentable over Nimura et al. (6,282,490), and Aritsuka et al. (5,715,412) as applied to claim 1 above, and further in view of Okude et al. (6,157,342).

As per claim 17, Nimura et al., and Aritsuka et al. do not disclose the image generating unit changes color data relating to colors of a mesh included in the mesh data based on changes

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in the sound data. However, Okude et al. disclose wherein the map data is data relating to mesh data forming at least one mountain object, and the image generating unit changes color data relating to colors of a mesh included in the mesh data based on changes in the sound data (see column 8, lines 1-53; and columns 14-15, lines 32-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Nimura et al., and Aritsuka et al. by combining the image generating unit changes color data relating to colors of a mesh included in the mesh data based on changes in the sound data to increase an operator's attention in changing between different zone or area in the map display.

8. Claim 18, is rejected under 35 U.S.C. 103(a) as being unpatentable over Nimura et al. (6,282,490), Aritsuka et al. (5,715,412), and Okude et al. (6,157,342) as applied to claim 17 above, and further in view of Li et al. (6,757,446), and Okude et al. (6,341,254).

As per claim 18, Okude et al.('342) disclose wherein the image generating unit includes a color data changing unit operable to change the color data included in the mesh data forming the at least one mountain object based on changes in the sound data obtained from the sound data obtaining unit (see column 8, lines 1-53), an object generating unit operable to specify local coordinates of vertices of the at least one mountain object using the mesh data including the color data changed by the color data changing unit and carry out a generation process for the at least one mountain object (see columns 14-15, lines 31-52). Nimura et al., Aritsuka et al., and Okude et al.('342) do not disclose a local coordinate transforming unit operable for transforming the local coordinates to global coordinates. However, Li et al. disclose a local coordinate transforming unit operable to set a local coordinate transformation matrix for transforming the local coordinates to global coordinates and transform the local coordinates to

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global coordinates using the local coordinate transformation matrix (see column 4, lines 9-36; and columns 15-17, lines 39-6). Nimura et al., Aritsuka et al., and Okude et al. ('342) also do not disclose a model view transforming unit. However, Okude et al. ('254) disclose a model view transforming unit operable to specify viewpoint coordinates for a viewpoint in the global coordinates and generate the map drawing data by transforming the global coordinates to a coordinate system centered on the viewpoint coordinates using a model view transformation matrix (see columns 6-8, lines 61-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Nimura et al., Aritsuka et al., and Okude et al. ('342) by combining a local coordinate transforming unit, and a model view transforming unit for transforming images to accurately simulate how a scene would be viewed by an observer.

As per claim 19, Okude et al. ('342) disclose the color data changing unit changes the color data included in the mesh data from a summit side of the at least one mountain object (see column 8, lines 1-53; and columns 14-15, lines 32-52).

9. Claim 20, is rejected under 35 U.S.C. 103(a) as being unpatentable Nimura et al. (6,282,490), Aritsuka et al. (5,715,412), and Okude et al. (6,157,342) as applied to claim 17 above, and further in view of Monson (5,751,576).

As per claim 20, Nimura et al., Aritsuka et al., and Okude et al. do not disclose the mesh data includes altitude data. However, Monson discloses the mesh data includes altitude data composed of heights above points in a lattice oriented with longitude and latitude directions to express undulations in a land surface, shape data of the mesh, and color data of the mesh (see columns 3-4, lines 66-60). It would have been obvious to one of ordinary skill in the art at the

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time the invention was made to modify the teach of Nimura et al., Aritsuka et al., and Okude et al. by combining the mesh data includes altitude data to determine a geometrical of a geographic area in a map display area.

10. Claims 4-5, 11-12, 14-16, and 22, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

. Sakai et al. (5,680,525)

. Yamamoto (6,677,944)

. Kunigita (6,836,727)

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 571-272-6968. The examiner can normally be reached on M-F 6:30 AM-4:00 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner  
Dalena Tran



July 20, 2005